

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

Conditional Major Draft Permit No. F-01-002  
SCHLUMBERGER RESOURCE MANAGEMENT SERVICES  
970 HIGHWAY 127 NORTH, OWENTON, KY  
November 1, 2001  
KEITH METZKER, REVIEWER  
Plant I.D. # 21-187-00005  
Application Log # 53950

**SOURCE DESCRIPTION:**

Schlumberger manufactures gas meters. They currently have a conditional major permit but it does not cover the entire source. Permit F-01-002 will cover the entire source. Most of the air emissions at this source result from molding, curing, sealing, gluing, painting, and solvent cleaning.

The only significant sources of particulate matter (PM) are the painting and powder coating application. PM emissions from painting and powder coating are controlled by filters.

**COMMENTS:**

**Type of control and efficiency**

EP01 is seven diaphragm molding units, curing, and RTV primer and sealant application. All of these activities are controlled by carbon adsorber filters. Without the carbon adsorption, odors may be a problem but with the filters, odors will be assumed to be controlled. VOC control efficiency has been assumed to be 40% for the molding and curing and 90% for the primer and sealant based on the manufacturer's technical bulletin.

EP02 is an open face spray booth with an air atomizing spray gun. Transfer efficiency has been assumed to be 25% because of the type of gun used and the size of the items painted. Although capture is probably around 90%, it has been assumed to be 100% because the PM not captured will settle out in the building containing the booth. And, Schlumberger's original application for the unit lists a PM control efficiency of 96% - 98%. Based on the manufacturer data supplied in the source wide application, 95% control efficiency was demonstrated to be the minimum control achieved. Control efficiency has been assumed to be 95%.

PM emissions from spray cans is assumed to be completely controlled by the building.

PM emissions from the powder coating application are controlled by an enclosure inside the source's production building and ventilation inside the enclosure is controlled by a filter. The process building is vented inside the source's work area where gravity further controls emissions. The combined controls effectively produce negligible emissions.

Due to the design and nature of the pyrolysis furnace, PM control efficiency has been assumed to be nearly complete.

**COMMENTS (CONTINUED):**

**Type of control and efficiency (continued)**

Gravity has been assumed to nearly completely control PM emissions from the parts washer.

All other activities and emissions are uncontrolled.

**Emission factors and their source**

Molding and curing emissions have been based on AP-42 emission factors for autoclave curing. VOC emissions are assumed to be 0.00221 lbs/lb of raw material based on Table 4.12-9 compound 18. HAP emissions are assumed to be 0.00138 lbs/lb of raw material based on the same table.

All VOCs formulated into raw materials have been assumed to be 100% emitted.

In the painting, all solids formulated into the paints have been assumed to be 75% emitted due to the division's transfer efficiency estimate.

As described above, PM emissions from the powder coatings are assumed to be negligible.

Due to the nature of the processes and the control achieved, the PM emission from all other activities has been assumed to be negligible.

**Applicable regulations**

EP01 is subject to 401 KAR 53:010, Ambient air quality standards, since pungent odors may result from the molding and curing at this emission point.

EP02 is subject to 401 KAR 59:010, New process operation, because the paint booth will commence after July 2, 1975, PM emissions are part of the painting, and the booth is subject to no other particulate emission standards in chapter 59 of 401 KAR.

401 KAR 59:225, New miscellaneous metal parts and products surface coating operations, does not apply to this point because Schlumberger is taking a conditional major limitation on VOC emissions to avoid major source status.

The source is not subject to 40 CFR 64, Compliance assurance monitoring, because Schlumberger is a minor source of VOC, HAP, and PM emissions.

EP02 is not subject to 40 CFR 63 Subpart B, Requirements for control technology determinations for major sources in accordance with Clean Air Act Sections, Sections 112(g) and 112(j), because potential HAP emissions from the booth are below the major source trigger level or have been limited by permit conditions to be below the major source trigger level.

Pyrolysis, powder coating, and the parts washer are subject to 401 KAR 59:010, New process operation, because they commenced after July 2, 1975, PM emissions possible, and the processes are subject to no other particulate emission standards in chapter 59 of 401 KAR.

**PERIODIC MONITORING:**

Carbon adsorbers have been assumed to be effective at controlling odors from molding and curing. Complaints from the community can be used to verify this assumption. Once a complaint is recorded, a division representative can evaluate the situation and if warranted, require better control. If molding and curing controlled by properly operating activated carbon aren't adequately controlled, specialty carbon may be used to achieve better odor control.

To assure that carbon adsorber filters are working, pressure drop shall be monitored daily. This should be adequate because carbon adsorbers do not fail quickly. Once break through starts, the adsorber gradually loses effectiveness until break through occurs. Daily monitoring should be often enough to recognize when the adsorber needs to be changed.

Given the control device used (filters) at EP02 and the assumed control efficiency, there is little chance of violating a mass or opacity standard. For this reason, direct measurements of mass and opacity emissions will not be required but some assurance that the filters are working properly will be needed. Proper maintenance and operation will be used assure capture (given the surrounding building and airflow patterns). Once the emissions have been captured, the filters will assure compliance with the mass and opacity standards. If the filters are inspected daily to determine if replacement is needed, there is little chance that the filters won't work.

Proper maintenance and operation, including use of filters at the powder coating applicator, is required to assure compliance with applicable regulations but no additional monitoring is required for any of the other emission units at the source due to the nature of the emissions.

**EMISSION AND OPERATING CAPS DESCRIPTION:**

All emission units at the source must comply with emission limits that applicable regulations specify. Operating limitations have been included in the permit to assure compliance.

VOC emission limits have been accepted to preclude regulation applicability. Facility emissions of VOC during any consecutive 12 month period shall not exceed 90 tons.

HAP emission limits have also been accepted to preclude regulation applicability. Facility HAP emissions during any consecutive 12 month period shall not exceed 9.5 tons for each individual HAP and 22.5 tons for all combined HAPs.

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or record keeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.